moves in a first direction and a second direction in and out of the housing 136 to open and close the door of the vehicle. The piston is operated by either compressed air or liquid (sic; fluid) and when the air or fluid is supplied or relieved the doors will open or close. A control assembly 152 operates in a first mode to supply air or fluid to the piston 142 and in a second mode to retrieve the air or fluid from the piston 142. The first mode, which supplies air or fluid to the piston, maintains the doors in a closed position while the second mode maintains the doors in an open position. The control assembly 152 allows for a predetermined amount of air or fluid to be applied to the piston 142 to move the doors from one position to another. Column 7, lines 5-10 describe the control assembly to direct a controlled amount of compressed air or hydraulic fluid. The Examiner has interpreted that for a controlled amount of air or fluid to be directed then it would have to be predetermined how much air or fluid would go into the controlled amount directed by the system 152. The control assembly is connected to an air supply 154 by means of input port 166 and conduits 168 and 170. Two output ports 174 and 176 establish communication between the control assembly 152 and the piston 142.

The Examiner added that the control system is further comprised of solenoids controlled by switches, which are controlled by the operator of the vehicle. The switches allow the operator to control the openings of the doors until the vehicle has reached a predetermined point. The system is also

comprised of a pilot valve 156, which is responsive to pressure, and moves from a first state to a second state to either stop the flow of air from the source to the piston or to allow air or fluid to flow to the piston.

With respect to the Examiner's statement that column 7, lines 5-10 of Rosenbaum describe a control assembly to direct a controlled amount of compressed air or hydraulic fluid, he said that he has interpreted that for a controlled amount of air or fluid to be directed then it would have to be predetermined how much air or fluid would go into the controlled amount directed by the system 152. This "controlled amount" is referring to closing the doors 34 and 36 when air pressure is applied to first end 137 of the cylinder 136. Furthermore, all of the air constitutes the controlled amount and is determined by the volume of the cylinder 136.

Amended claim 1 calls for "a control element for preventing air pressure from acting in the first direction on said piston until the air pressure exceeds a predetermined air pressure." This predetermined air pressure has to be exceeded before the air pressure can act on the piston. This is not met by a predetermined volume amount as Rosenbaum is concerned with volume as to the controlled amount.

In the claims, movement in the first direction opens the doors, not closes them as occurs in Rosenbaum's reference to "a controlled amount" in lines 5-10, column 7.

Lines 4-9 af the paragraph bridging pages 2 and 3 of the Office Action do not state in either line 5 that air is relieved (actually exhausted to the atmosphere) or in line 7 that air is retrieved (actually exhausted to the atmosphere) from the first end 137 of the cylinder 136 by supplying air pressure to the second end 138. Therefore, the limitation of claim 1 for preventing air pressure from acting in the first direction not only differs from Rosenbaum by the pressure exceeding a predetermined air pressure before the piston in the housing is moved but this occurring to open the doors, not close the doors as occurs in Rosenbaum.

Claim 32 recites "a control element for preventing movement of said piston to its door opening position at the predetermined position along its predetermined travel path until a predetermined air pressure in said housing is exceeded." Thus, "predetermined amount" is not used in claim 32. The air reservoir 154 of Rosenbaum provides a constant pressure to the piston 142. Accordingly, Rosenbaum does not teach preventing movement of the piston to its door opening position until a predetermined air pressure in the housing (cylinder 136) is exceeded since the piston 142 starts to move to its door closing, not door opening, position as soon as the air enters the first end 137 of the cylinder 136.

The final sentence of the paragraph bridging pages 2 and 3 of the Office Action said: "The system is also comprised of a pilot valve 156, which is responsive to pressure, and moves from

a first state to a second state to either stop the flow of air from the source to the piston or to allow air or fluid to flow to the piston."

The pilot valve 156 (see FIG. 5) of Rosenbaum is not responsive to pressure. As explained to the Examiner during a telephone interview on October 19, the pilot valve 156 is moved solely by activation or inactivation of a solenoid 232 through closing a switch 160 to electrically activate the solenoid 232 (see lines 19-21, column 12) or depressing a push button assembly 233 (see FIG. 7) as set forth in lines 30-34, column 14 to manually activate the solenoid 232 (see FIG. 5). Thus, the pilot valve 156 is responsive to movement of the solenoid 232, not air pressure. The Examiner agreed during the telephone interview of October 19 that the pilot valve 156 was not pressure responsive.

When the solenoid 232 is not activated, a first section 228 of the pilot valve 156 is interposed between an input port 214 and an output port 224 of the pilot valve 156 as shown in FIG. 5. This places the pilot valve 156 in its <u>first</u> state so that pneumatic pressure can be supplied from the air reservoir 154 through a conduit 226 to a second control port 212 of a control valve 158. This positions a gate closing section 186 of the control valve 158 between inlet port 166 and output port 174 and between output port 176 and exhaust port 172 of the control valve 158 (see line 43, column 11 - line 18, column 12). This transmits pressurized air to a first end 137 of a cylinder 136 to close the doors 34 and 36 while air exits the cylinder 136

through the exhaust port 172 from a second end 138 of the cylinder 136 (see lines 36-48, column 9).

When the solenoid 232 is activated, the pilot valve 156 is placed in its second state (see lines 19-31, column 12). This interposes the second section 230 of the pilot valve 156 between an exhaust port 218 and the output port 224 of the pilot valve 156 (see lines 42-48, column 12). When the pilot valve 156 is in its second state, atmospheric pressure is directed to the second control port 212 of the control valve 158 through the exhaust port 218 of the pilot valve 156. This results in interposition of a neutral section 182 of the control valve 158 in the position of FIG. 5 (see lines 48-58, column 12).

Accordingly, the pilot valve 156 is not responsive to pressure as stated in the final sentence of the paragraph bridging pages 2 and 3 of the Office Action. Additionally, in the second state, the doors 34 and 36 remain in the closed position since the air pressure is trapped in the first end 137 of the cylinder 136 by the neutral section 182 of the control valve 158. Thus, movement of the pilot valve 156 to its second state only moves the neutral section 182 of the control valve 158 to its blocking position. This stops flow air; it does not allow air to flow to the piston 142 as lines 8 and 9, page 3 of the Office Action state. Movement from the second state to the first state allows air or fluid to flow only to the first end 137 of the cylinder 136 to close the doors 34 and 36. The doors 34 and 36 cannot be opened by the pilot valve 156.

The pilot valve 156 is not capable of controlling movement of the doors 34 and 36 to the open position, which is to what the rejected claims are directed. This can only be accomplished in Rosenbaum by energizing a solenoid 188 when the pilot valve 156 is in its second state (see lines 60-64, column 7 and line 58, column 12 - line 5, column 13).

With regard to the final two sentences (The Examiner explained that this should be a single sentence during the telephone interviews on October 28.) of the first paragraph on page 4 of the Office Action, the Examiner's statement that his interpretation that the controlled flow of air would need to be predetermined in order to have the device work properly is not understood. That is, this controlled flow of air has nothing to do with a predetermined pressure. As previously mentioned, this is referring to volume as the air reservoir 154 is supplying air pressure (see lines 15 and 16, column 7).

Claim 32 requires "a control element for preventing movement of said piston to its door opening position at the predetermined position along its predetermined travel path until a predetermined air pressure in said housing is exceeded." (emphasis added) This sets forth that there is air pressure in the housing (identified as cylinder 136 in Rosenbaum by the Examiner) before movement of the piston can occur, but movement of the piston does not occur until a predetermined air pressure in the housing is exceeded. Rosenbaum has a constant pressure

and movement of the piston 142 as soon as the air pressure enters the cylinder 132.

With respect to claim 2, which depends from claim 1, the Examiner has not identified a pressure responsive element between the source of air pressure and the piston to block supply of air pressure in the first direction (This moves the doors 34 and 36 to their open position.). Even if the Examiner is contending that the pilot valve 156 of Rosenbaum is a pressure responsive element and it is not as previously discussed, the pilot valve 156 can only cause movement of the doors 34 and 36 to the closed position (see lines 7-15, column 12) when air flows through the first section 228 of the pilot valve 156, not to the open position as claim 2 requires.

The gate opening section 184 of the control valve 158 is not controlled in any manner by the pilot valve 156. Therefore, even if the pilot valve 156 were responsive to air pressure and it is not, it has no effect on the gate opening section 184, which causes opening of the doors 34 and 36. This occurs only through actuation of the solenoid 188 (see lines 3-11, column 10), and it cannot be activated until the pilot valve 156 is in its second state (see line 35, column 12 - line 5, column 13).

Claim 33, which depends from claim 32, has the same language as claim 2, which depends from claim 1. Thus, it distinguishes from Rosenbaum for the same reasons as claim 2.

During the telephone interview on October 19, the Examiner was understood to state that claims 2 and 33 were allowable

because of the pilot valve 156 not being pressure responsive. However, during the telephone interviews on October 28, the Examiner said that claims 2 and 33 were possibly allowable after applicants' attorney set forth that he understood the Examiner to state that they were allowable because the pilot valve 156 was not pressure responsive.

It is not understood where Rosenbaum has any pressure responsive element between the source of air pressure and the piston to block supply of air pressure until the air pressure exceeds a predetermined air pressure. The Examiner did not indicate where there is a pressure responsive element in Rosenbaum so located to perform the function set forth in each of claims 2 and 33.

During the telephone interviews on October 28, the Examiner stated that the cylinder 136 of Rosenbaum was not only the housing of each of claims 1 and 32 in which the piston 142 is movable but also met the claim 1 limitation of "a control element for preventing air pressure from acting in the first direction (opening the doors) of said piston until the air pressure exceeds a predetermined air pressure." He took the same position with regard to claim 32 reciting "a control element for preventing movement of a piston to its door opening position at the predetermined position along its predetermined travel path until the predetermined air pressure in said housing is exceeded."

This contention was understood to be that the cylinder 136 of Rosenbaum prevents air pressure from acting on the piston 142

until a predetermined air pressure in the cylinder 136 is exceeded. However, the piston 142 can only be moved in its door opening direction 180 when the gate opening section 184 of the control valve 158 is shifted to the right to connect the input port 166 of the control valve 158 with its output port 176 (see lines 21-35, column 9) to supply air pressure from the air reservoir 154 to the second end 138 of the cylinder 136. This occurs only when the solenoid 188 is actuated (see lines 3-11, column 10). The solenoid 188 is manually controlled by closing a second switch 162.

Accordingly, the cylinder 136 of Rosenbaum is not a control element but only the housing, which the Examiner has identified as such, in which the piston 142 moves. The air reservoir 154 is the source of a constant air pressure.

Thus, the doors 34 and 36 of Rosenbaum can only be opened by supplying air pressure to the second end 138 of the cylinder 136. This can occur only when the solenoid 188 is activated to shift the gate opening section 184 to the right to cause the piston 142 to move in the door opening direction 180. However, the air pressure in the air reservoir 154 is transmitted immediately, irrespective of any pressure.

On page 3 of the Office Action, the Examiner said that Rosenbaum discloses the door actuator as described above. However, he added that Rosenbaum does not disclose the doors use on a railroad car, but that Ward discloses a railroad car with bottom dump doors. He concluded that it would have been obvious

to one of ordinary skill in the art to understand that a door assembly (sic; actuator), like that of Rosenbaum, could have been applied to a railroad car, like that of Ward since the two vehicles are substantially the same construction except for the mode of travel with which they are used.

On page 4 of the Office Action, the Examiner stated that the two vehicles, regardless of their mode of transportation, are substantially the same except for the type of wheels mounted on the undercarriage and the type of surface they travel over.

There is no suggestion or motivation in either patent of applying the door actuator of Rosenbaum to a railroad car as the Examiner urged. A railroad car is not substantially the same construction as a semi-trailer 10 of Rosenbaum.

The type of wheels and the surface over which they travel, as the Examiner recognized, are completely different for a railroad car than the semi-trailer 10 of Rosenbaum. The type of wheels and the type of surface for a railroad car results in it traveling along a predetermined path. Thus, there is no problem in Rosenbaum of opening the door at any position since the semi-trailer 10 of Rosenbaum can be stopped at any location and the operation of the doors manually controlled by the driver of a tractor 12 connected to the semi-trailer 10.

Additionally, in Ward, hydraulic pressure, not air pressure as is required by the claims, drives the hopper doors for opening and closing them by converting pneumatic power (lines 13-18, col. 1). The pneumatic pressure must be converted to more acceptable

forms of power (lines 46 and 47, col. 2). Thus, Ward does not use air pressure so that it teaches away from using air pressure and the problem associated therewith.

Furthermore, Ward, unlike applicants' invention, selectively discharges stone ballast onto a road bed of a railway (lines 23-27, col. 1) through doors 47 (see FIG. 2) between rails 24 and through doors 48 outside of the rails 24 (lines 20-24, col. 5). While lines 27-31, col. 1 of Ward set forth that its control system may be used in other hydraulic (not pneumatic) applications where the available power is a pneumatic power supply such as large trucks, the opposite concept of the air control system of Rosenbaum being used on a railroad car is not suggested in Rosenbaum or in Ward.

Additionally, Rosenbaum does not discuss a predetermined position along a predetermined travel path at which the doors are to open as this can occur only with a railroad car. The Examiner referenced a "predetermined point" in lines 6 and 7, page 3 of the Office Action, but this is not what is claimed.

Lines 3-5 of the first complete paragraph on page 3 of the Office Action stated: "It would have been obvious to one of ordinary skill in the art to understand that a door assembly (sic; actuator), like that of Rosenbaum, could have been applied to a railroad car." This is not sufficient to show obviousness according to MPEP §2143.01 (right column, first complete paragraph, page 2100-135) and the cases cited therein.

The first complete paragraph on page 4 of the Office Action said in part: "Applicant (sic) argues that the prior art

references cannot be combined since they are different, such that one is a railroad car and the other is a road trailer. The Examiner has combined the two references based on the body construction and the hopper gate controls. It is clearly visible that the two vehicles, regardless of their mode of transportation, are substantially the same except for the type of wheels mounted on the undercarriage and the type of surface they travel over. It is understood that whether the vehicle is moved over rails or a road, it is merely intended use since the bodies are of the same basic construction. The applicant (sic) also argues that the device does not allow for a build up of a predetermined amount of pressure." (emphasis added)

As to "mere intended use," MPEP §2143.03 (first paragraph, page 2100-139) states: "All words in a claim must be considered in judging the patentability of that claim against the prior art." and cites cases. The Examiner has not done this by ignoring the intended use.

The explanation of motivation for combining Rosenbaum and Ward is not in accord with MPEP §2143.01 (first complete paragraph, page 2100-135) and In re Kotzab, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) on page 2100-135 (right column) wherein motivation requires (1) nature of problem to be solved, (2) teaching of prior art, and (3) knowledge of one of ordinary skill in the art for an implicit showing.

For an explicit showing, In re Kotzab states that the motivation, suggestion, or teaching may come from statements in